

Success Story

Industry: Food and Beverage

Application: Food Production Conveyor

Cost Savings: \$74,457

Introduction

Customer was experiencing ball bearing failures every 4 – 6 weeks on their production conveyor line. Regular high pressure wash-downs led to corrosion, seal damage and grease wash-out, resulting in regular maintenance and production downtime. NSK reviewed the bearing application and recommend NSK Life-Lube® as a solution. Trial bearings were purchased and tested in the application. This resulted in significant improvements in bearing life with no failures during the trial period. The NSK solution increased reliability and reduced unplanned downtime.

The Problem

- Food production conveyor
- Bearing corrosion, seal damage and grease wash-out due to high pressure wash-downs
- NSK Solution: Stainless steel Molded-Oil bearing inserts
- 12-month trial on 10 bearings
- Highly increased life-time: No failures after 12 months in operation
- Cost reduced for replacement bearings, lubrication and maintenance
- Productivity improvement



↑ Conveyor belt



↑ Molded-Oil Bearings

Background Information

- Industry: Food and Beverage
- Application: Food conveyor
- End-product: Ready meals
- No of machines: Conveyor – Multiple Bearing Positions

- Problem: Regular high-pressure wash-downs led to corrosion, seal damage and grease wash-out from the bearings, resulting in regular bearing failure and production downtime
- Approx. bearing life: 4 to 6 weeks

Value Proposals

- NSK reviewed the bearing application and discovered that bearing corrosion and grease wash out were the main issues
- A trial was proposed using Stainless steel Molded-Oil bearing inserts

- After 12 months the bearings were still performing well with no failures
- From this trial the solution was applied to other similar applications generating significant cost savings
- This success was then transferred to other production sites within the company

Product Features

- PBT thermoplastic resin housing
- Molded-Oil inserts (with solid lubricant)
- Martensitic stainless steel

- Nitrile rubber seals
- Available in Pillow Block, 2 and 4 bolt flanges and take-up unit housings

- Bore size 20mm - 40mm
- Corrosion resistance
- Paint free housings, preventing chipping & flaking

- Resistant to contamination increasing operating life
- Ideal for operations where process fluid is unavoidable
- No need for re-lubrication

Cost Saving Breakdown

| Before | Cost p.a. | NSK Solution | Cost p.a. |
|---|-----------------|--|----------------|
|  <p>Bearing Replacement: Regular bearing failures every 4-5 weeks on two key process lines. Annual bearing costs: \$983 per line × 2</p> | \$1,966 | <p>Bearing Replacement: No bearing failures in 12 months, resulting in inventory reduction. \$568 per line × 2</p> | \$1,137 |
|  <p>Maintenance costs: including relubrication, labour, overheads: \$1,753 per line × 2</p> | \$3,506 | <p>Maintenance Costs: No relubrication needed</p> | \$0 |
|  <p>Downtime: Lost production (12×/year). \$35,061 per line × 2</p> | \$70,122 | <p>Downtime: No production lost</p> | \$0 |
| Total Costs | \$75,594 | | \$1,137 |